YORK CE

E-II-YDS-C-0907

ENGLISH

INSTALLATION MANUAL

DIGITAL SCROLL CENTRAL AIR CONDITIONER (OUTDOOR UNIT)
YDS SYSTEM R410A

Model:

YDMH-252C35B
YDMH-280C35B
YDMH-335C35B
YDMH-400C35B
YDMH-450C35B

For correct installation, read this manual before starting installation.
Only trained and qualified service personnel should install, repair or service air conditioning equipment. Users should not install the air conditioner by themselves.
All pictures are only sketches. If there is any difference between pictures in this manual and the actual shape of the air conditioner you purchased, the actual shape shall prevail.

PRECAUTIONS

1. This installation manual is for the outdoor unit.
2. Refer to the indoor unit installation manual for indoor parts installation.
3. Please read the power source unit installation manual to install the power source unit .
4. Please refer to the refrigerant distributor installation manual to install the refrigerant distributor.

KEY POINTS IN INSTALLATION

INSTALLATION

- Confirm the model and name of your air conditioner to avoid installation mistakes.

REFRIGERANT PIPING

- Separately purchased refrigerant distributor (branch joint, branch header pipe) should be used in the process of refrigerant piping.
- Refrigerant piping should accord with specified diameter.
- Charge nitrogen under certain pressure in the refrigerant piping before welding.
- Heat insulation should be done to refrigerant piping.
- After the installing refrigerant piping, do not electrify the indoor unit before the airtight test and vacuum.

AIRTIGHT TEST

- Refrigerant piping must be tested for gas proof [3.8MPa(40kgf/cm^2) nitrogen.]

VACUUM

- Vacuum pump must be used, and vacuuming should be done from the gas side and liquid side simultaneously.

ADD REFRIGERANT

- When the actual pipe is longer than the fiducial length, the added refrigerant volume of every outdoor unit depends on the calculating according to the actual length.
- Fill the form on the outdoor unit electric control box with the added volume, length of pipes (actual length) and the relative height drop between outdoor unit and indoor unit.

WIRING

- Choose power capacity and wire diameter according to the design manual. The power cord of the air conditioner should be wider than the power cord of ordinary motor.
- Do not twist or cross the power cord (380V 3N~)with wiring (low voltage) between indoor and outdoor unit, or mishandling may occur.
- Connect the indoor unit to the power after airtight test and vacuuming.
- Set the address of outdoor unit, see "Address dial of outdoor unit"

TEST RUNNING

- Remove six sponges at the back of unit. Please handle with care to avoid damage to fin, which will decrease heat exchanging efficiency.
- The test running can not begin until the outdoor unit has been connected to the power for 12hr.

INSTALLATION LOCATION

CAUTION

1. Please keep away from the following place, or malfunction of the machine may be caused:
- There is combustible gas leakage.
- There is much oil (including engine oil) ingredient.
- There is salty air surrounding(near the coast)
- There is caustic gas (the sulfide) existing in the air (near a hotspring).
- A place the heat air expelled out from the outdoor unit can reach your neighbor's window.
- A place that the noise interferes your neighbors every day life.
- A place that is too weak to bear the weight of the unit.
- Uneven place.
- Insufficient ventilation place.
- Near a private power station or high frequency equipment.
- A place with strong electromagnetic interference.

2. The insulation of the metal parts of the building and the air conditioner should comply with the regulation of National Electric Standard.

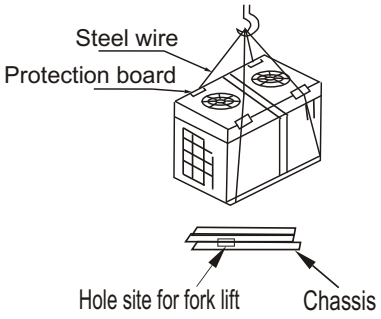
ACCESSORIES (Outdoor unit)

Name	Qty.	Outline	Function
Outdoor unit installation manual	1	This manual	———
Outdoor unit owner's manual	1	———	(Given to users)
Indoor unit owner's manual	2	———	(Given to users)
Service manual(guarantee and bar code inside)	1	———	(Given to users)
Screw bag	1	———	Spare
Straight screwdriver	1	———	Dialling
Gauge joint	1	———	For airtight test
90° elbow	2	———	Pipe connecting

CARRY IN THE OUTDOOR UNIT

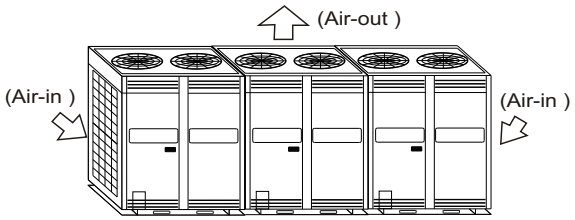
1. Carry in with steel wire:
- Sling the outdoor unit and carry it in with 4 steel wire (6mm or more)
- Use soft board to protect the unit surface from scratch and distortion where contact the steel wire.
- Remove the transportation board after carrying in the outdoor unit.

2. Carry in with a fork lift

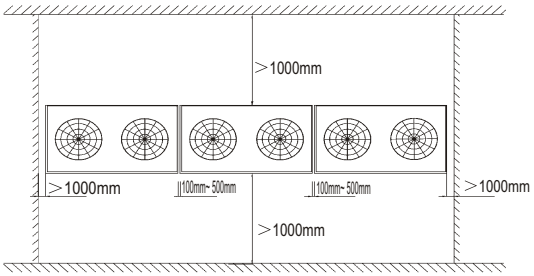


INSTALLATION SPACE

1. Leave enough space for maintenance (see following picture) and install power unit on the side of outdoor unit. Refer to power unit installation manual.
2. Keep the modules in one system at the same level.

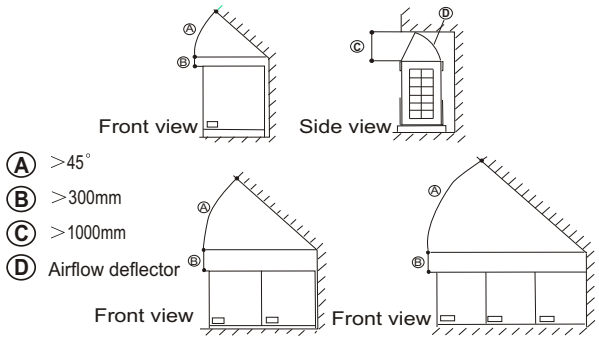


Installation and maintenance surface



Outdoor unit planform

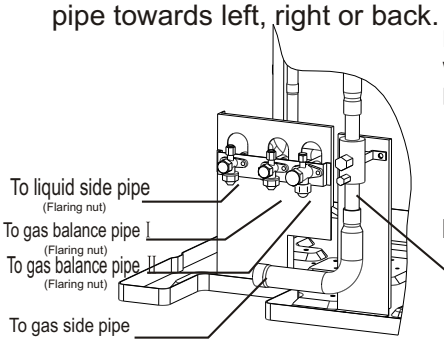
2. When there is obstacle above the outdoor unit:



NOTE: The top of any pile around the outdoor unit should at least 800mm below the top of unit. If not, please install mechanical air discharge equipment.

REFRIGERANT PIPE

1. Refrigerant piping connection is inside the outdoor unit, please remove the front clapboard.
2. The piping can be led through the down-left of the outdoor unit or the soleplate gap.
3. When through the front, piping is led by wiring from the panel, then connect branch pipes towards left or right.
4. When through the soleplate gap, install the branch pipe towards left, right or back.



NOTE: No connection with gas and oil balance pipes for single module.

5. If through the front, please remove the clapboard at corresponding place first.

CAUTION

To prevent the inside of piping from oxidizing when welding, it is necessary to charge nitrogen, or oxide may block the circulation.

OUTDOOR UNIT COMBINATION

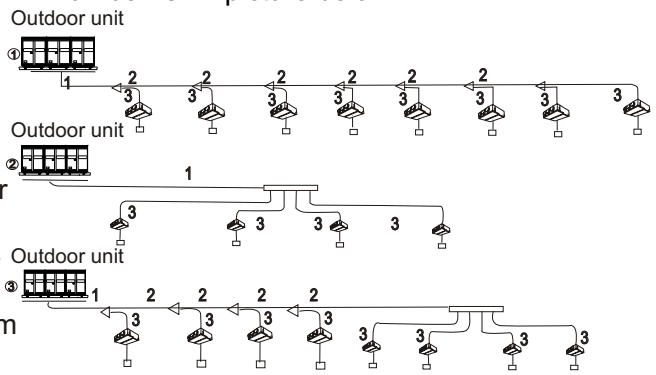
HP	Mode	Qty. of indoor unit	HP	Mode	Qty. of indoor unit
8	8HP×1	13	38	10HP+12HP+16HP	32
10	10HP×1	16	40	10HP+14HP+16HP	40
12	12HP×1	16	42	16HP×2+10HP	40
14	14HP×1	16	44	16HP×2+12HP	40
16	16HP×1	20	46	14HP+16HP×2	40
18	8HP+10HP	20	48	16HP×3	40
20	10HP+10HP	20	50	14HP+12HP×3	50
22	10HP+12HP	20	52	12HP×3+16HP	50
24	10HP+14HP	20	54	12HP×2+14HP+16HP	50
26	10HP+16HP	20	56	12HP×2+16HP×2	50
28	12HP+16HP	20	58	10HP+16HP×3	50
30	14HP+16HP	32	60	12HP+16HP×3	64
32	16HP+16HP	32	62	14HP+16HP×3	64
34	10HP×2+14HP	32	64	16HP×4	64
36	10HP×2+16HP	32			

PIPE SIZE AND CONNECTION

① Pipe between outdoor unit and the first branch (Main pipe)
Refer to Number 1 in picture below

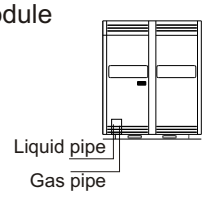
② Size of main pipe connecting multi-modules
Number 2 in picture below

③ Pipe between branches
Number 3 in picture below



<Module installation chart>

● Single module



NOTE: Pipe size of model 8HP, 10HP and 12HP:
liquid side Φ12.7, gas side Φ25.4.

Pipe size of model 14HP and 16HP:
liquid side Φ15.88, gas side Φ35.0.

No connection with gas balance pipes for single module.

(Table2) Pipe size and connection of single modult and Branch joint

Model	Gas side	Liquid side	Branch joint
YDMH-252C35B	Φ25.4	Φ12.7	YDSA/RD101
YDMH-280C35B	Φ25.4	Φ12.7	YDSA/RD101
YDMH-335C35B	Φ25.4	Φ12.7	YDSA/RD101
YDMH-400C35B	Φ35.0	Φ15.88	YDSA/RD102
YDMH-450C35B	Φ35.0	Φ15.88	YDSA/RD102

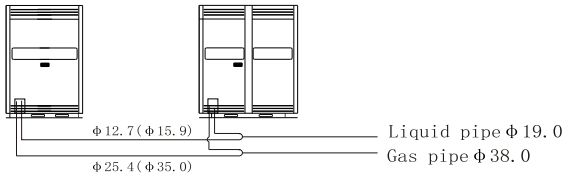
(Table3) Size of Multi-T aiwan pipe and branch pipe

HorespowerA(HP)	Main pipe(gas side/liquid side)	Branch joint
16＜A≤28	Φ38.0/Φ19.0	YDSA/RD102
28＜A≤34	Φ42.0/Φ22.0	YDSA/RD103
34＜A≤48	Φ45.0/Φ22.0	YDSA/RD104
48＜A≤64	Φ54.0/Φ25.4	YDSA/RD104

Note: the distance between a outdoor unit and the other which is farthest from it is less than 90 meters.The main pipe may be the smaller level.

● Two modules

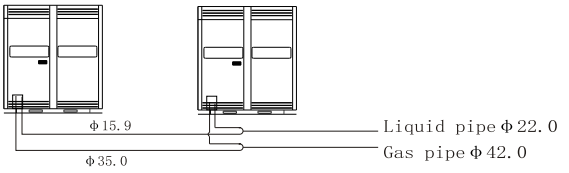
（1）18HP≤capacity≤28HP



Gas/liquid side

Y Three Contacts: YDSA/RD102

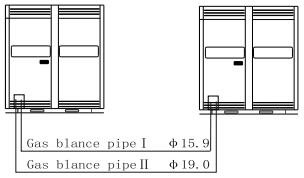
（2）28HP＜capacity≤32HP



Gas/liquid side

Y Three Contacts : YDSA/RD103

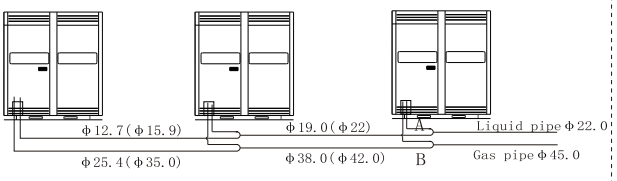
（3）Connection of gas balance pipes



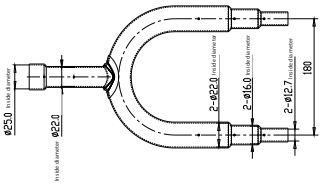
NOTE: Wrap the valves with wet cloth when welding, or the valves may be damaged to cause leakage.

● Three modules

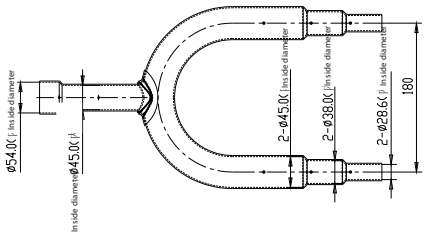
（1）32HP＜capacity≤48HP



Liquid side Y Three Contacts A:

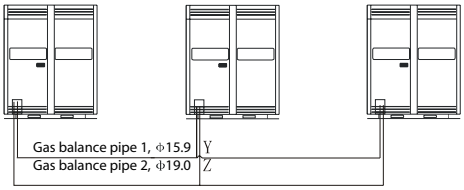


Gas side Y Three Contacts B:

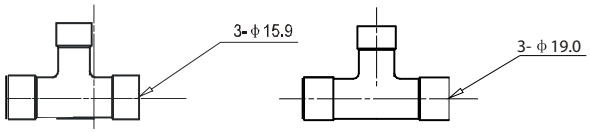


Note: liquid/Gas side Y type three Contacts above : YDSA/RD01

（2）Connection of gas balance pipes

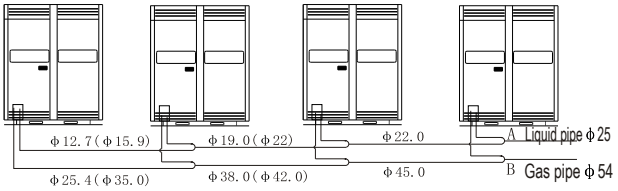


See following chart for size of T-shaped pipes Z connecting with gas pipe.



● Four modules

（1）48HP＜capacity≤64HP



（2）Connection of gas balance pipes

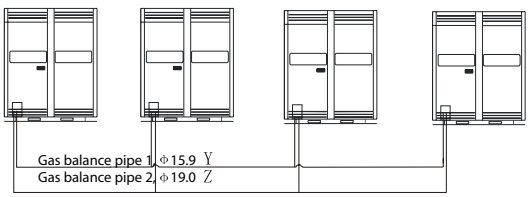


Table 4
Size of main pipe
A: Capacity of all the indoor units.

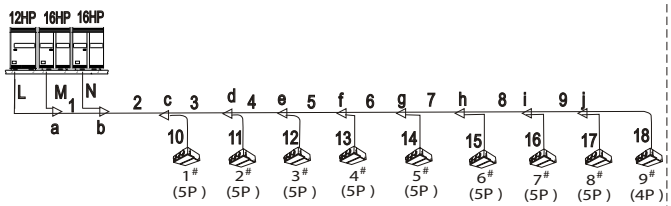
A(horsepower)	Main pipe(gas side/liquid side)	Branch joint
A≤12	Ø 22.0 / Ø 9.53	YDSA/RD101
12<A≤16	Ø 28.6 / Ø 12.7	YDSA/RD101
16<A≤28	Ø 35.0 / Ø 15.9	YDSA/RD102
28<A≤34	Ø 38.0 / Ø 19.0	YDSA/RD102
34<A≤48	Ø 42.0 / Ø 22.0	YDSA/RD103
48<A≤64	Ø 45.0 / Ø 22.0	YDSA/RD103

Note: the first branch pipe is according to the total ability of the outdoor unit, the others could not larger than it.

Table5
size and connection of branch pipes

R410A	28 ~ 45 (4-way cassette)	Ø 12,7 (Flaring nut)	Ø 6,35 (Flaring nut)
	56 ~ 112 (4-way cassette)	Ø 16,0 (Flaring nut)	Ø 9,53 (Flaring nut)
	22 ~ 36 (duct type) / ceiling de floor	Ø 12,7 (Flaring nut)	Ø 6,35 (Flaring nut)
	45 ~ 71 (duct type) / ceiling de floor	Ø 16,0 (Flaring nut)	Ø 9,53 (Flaring nut)
	22 ~ 56 (wall mounted)	Ø 12,7 (Flaring nut)	Ø 6,35 (Flaring nut)

Take (16+16+12)HP outdoor unit as example:



parallel outdoor unit:

1. Branch pipes: NoL,M,N， the size is 25.0/ 12.7、 / 15.9、 35.0/ According to the cor respondin g outdoor units ability.

2..1# pipe , total HP is 16+12=28HP， pipe size is 0/

3.model of branch joint: a ,type YDSA/RD 101 ,b choose YDSA/RD01.

Room inside:

1). Branch pipes are 10--18,refer to table 5,the size is: 15.9/ 9.53

2). Subordinate indoor units of pipe 9 are 8#, 9#, total HP is 5+4=9P≤12P , pipe 9# size is 22.0/ , model of branch joint j :YDSA/RD101

3). Subordinate indoor units of pipe 8 are 7#,8#,9#, totel HP is 5+5+4=14P ≤16P,pipe size is / 12.7, model of branch joint I :YDSA/RD102

4).Subordinate indoor units of pipe 7 are 6#~9#, totel HP is 5+5+5+4=19P ≤28P,pipe size is 35.0/ , model of branch joint h :YDSA/RD102

5).Subordinate indoor units of pipe 6 are 5#~9#, totel HP is5+5+5+5+4=24P≤28P pipe size is 35.0/ , model of branch joint g ::YDSA/RD102

6).Subordinate indoor units of pipe 5 are 4#~9#, totel HP is5+5+5+5+5+4=29P ≤34P,pipe5 size is .0/ , model of branch joint f ::YDSA/RD102

7).Subordinate indoor units of pipe 4are 3#~9#, totel HP is5+5+5+5+5+5+4=34P ≤34P,pipe4size is .0/ , model of branch joint e ::YDSA/RD102

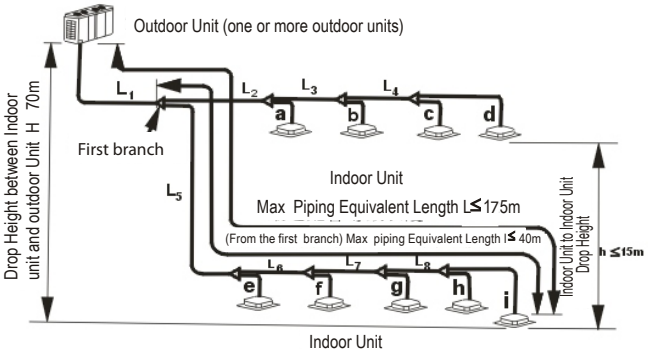
8).Subordinate indoor units of pipe 3are 2#~9#, totel HP is5+5+5+5+5+5+5+4=39P ≤48P,pipe3size is .0/ , model of branch joint d ::YDSA/RD103

9).Pipe2 is the main pipe,the size of pipe2 and branchc refer to the outdoor unit. pipe3size is .0/ model of branch joint c ::YDSA/RD103

Note:Y type branch joint a,b must be the level laying ,otherwise can cause the cold intermediary assignment to be uneven!And multi-Taiwan parallel outdoor unit must be in the identical altitude.

Length and Drop Height Permitted of the Refrigerant piping

			Permitted value		Piping
Pipe Length	Total Pipe Length (Actual)		≤30HP	350m	L1+L2+L3+L4+L5+L6 +a+b+c+d+e+f+g+h+i
			>30HP	500m	
	Max Piping (L)	Actual Length	150m		L1+L3+L4+L5+L6+i
		Equivalent Length	175m		
	Piping (farthest from the first line pipe branch) Equivalent Length (l)		40m		L3+L4+L5+L6+i
Drop Height	Indoor-Outdoor Unit Drop Height(H)	Outdoor Unit Up	70m		———
		Outdoor Unit Down	40m		———
	Indoor Unit to Indoor Unit Drop Height(h)		15m		———



Remove Dirt or Water in the Piping

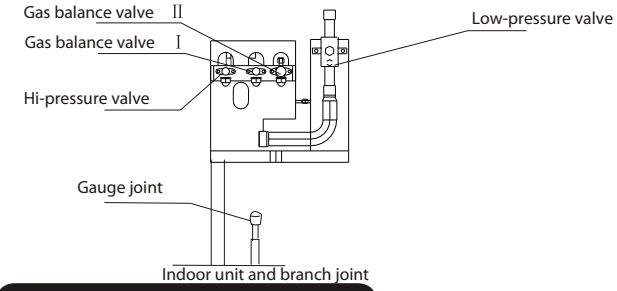
- Make sure there is no any dirt or water before connecting the piping to the outdoor units.
- Wash the piping with high pressure nitrogen, never use refrigerant of the outdoor unit.

Airtight Test

1. C onnect piping on h i-pressur e sid e with hi-pressur e va lve. (For multi-modules pa rallel con nection, plea se co nnect gas and oil balan ce v alve s.)
2. W eld the p iping on l ow-press ure s ide with gauge joint.
3. C harge nitrogen from hi-pressur e va lve c ore a nd gauge jo int.
4. After airtight test, weld low-pressur e ba ll va lve a nd pip ing on low--pressur e sid e.

CAUTION

1. Pres sured n itrogen [3.8MP a (40kg /cm^2) shou ld be u sed in the airtigh t test.
2. Do not c onnect piping on low- pressure s ide and low -pressure ball valve be fore charg ing nitrogen.
3. The airtight test should never use any ox ygen, f lammab le gas or po isonous gas.
4. W rap low-press ure va lve and balan ce va lves w ith wet cloth while welding.



Vacuum with vacuum pump

- Do vacuum with vacuum pump instead of refrigerant.
- Vacuuming should be done from liquid and gas side simultaneously. The pressure should be lower than 30Pa.

Open all valves

Refrigerant Amount to be Added

Calcu late the add ed refr igera nt acc ording to the diame ter and th e leng th of the liq uid side p ipe of the ou tdoor/indoor unit connection. T he refr igera nt is R410A.

Pipe siz e on liquid s ide	Re frigera nt to be Added per meter
6.35	0.022kg
9.53	0.060kg
12.7	0.110kg
15.9	0.170kg
19.0	0.250kg
22.0	0.350kg
25.0	0.520kg
28.6	0.680kg

（table2）functional description

1	No.1 Fixed compressor discharge temperature detect port
2	Digital scroll compressor discharge temperature detect port
3	Digital scroll compressor discharge temperature detect port
4	Reserved
5	Phase C Power
6	Transformer input, 220V AC
7	load output
8	Reserved
9	Reserved
10	load output
11	Transformer output
12	load output
13	Electric expansion valve drive port
14	Electric expansion valve drive port
15	Communication between indoor/outdoor units, RS-485 signal
16	Current protector, used for No.2 fixed compressor(Reserved)
17	Current protector, used for No.1 fixed compressor
18	Current protector, used for Digital Scroll compressor
19	T4 sensor port
20	T3 sensor port
21	Low pressure detect port
22	High pressure detect port
23	communication between outdoor units, RS-485 signal
24	Reserved
25	Reserved
26	Reserved
27	Reserved
28	No.2Fixed compressor discharge temperature detect port

Please establish the address of indoor and outdoor unit before debugging!!!

High-voltage in the electrically controlled box, do not move if not professional!!!

QUERY DESCRIPTION

Sw4 query instructions:

	Display content	Note
Normal display	Normal display	
1	ADDR of outdoor unit	0, 1, 2, 3, 4
2	Cap. of outdoor unit	8, 10, 12, 14, 16
3	Qty. of outdoor unit	Effective to main unit
4	Total cap. of outdoor units	
5	Cap. REQT. of indoor units	Effective to main unit
6	Cap. REQT. of main unit (after correction)	Effective to main unit
7	Running mode	0, 1, 2, 3, 4
8	Actual running cap. of outdoor unit	
9	Fan speed	
10	T2 average	Actual value
11	T3 pipe temp	Actual value
12	T4 ambient temp	Actual value
13	Discharge temp, inverter compressor	Actual value
14	Discharge temp, No.1 fixed compressor	Actual value
15	Discharge temp, No.2 fixed compressor	Actual value
16	Current, inverter compressor	Actual value
17	Current, No.1 fixed compressor	Actual value
18	Current, No.2 fixed compressor	Actual value
19	Opening degree, electronic expansion valve A	Actual value×8
20	Opening degree, electronic expansion valve B	Actual value×8
21	Qty. of indoor unit	Actual value
22	The last error or protection code	No protection or error, display 00
23	——	End of query

Normal display:
Display qty. of indoor units which communicate with outdoor unit on standby mode. In case of cap. requirement, display running frequency of compressor.

Running mode:
OFF: 0--OFF,1--FAN, 2-- COOL, 3-- HEAT, 4-- Constraint cool

Fan speed: 0--OFF, 1-- LOW, 2--HIGH

PWV opening: pulse count=displayed value×8

Sw1, Sw2: network ADDR setting switch

Sw3: constraint cool button Sw4: query button

Sw5:Set lock mode switch

The outdoor unit of 8Hp, 10Hp and 12Hp exclude the part in broken line circle and relevant wiring (including the wiring with CT2 current inductor and HEAT2) on nameplate.

Address dial of outdoor unit

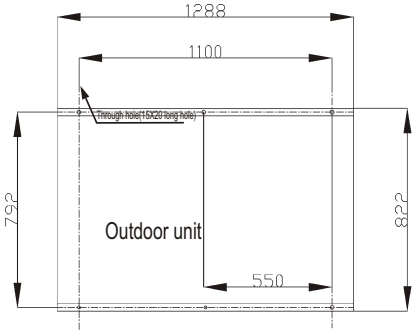
- The address dial of outdoor unit is shown below: when outdoor unit is on,namely examines outdoor scheme quantity, and determines the main unit or auxiliary unit according to outdoor unit address.
  Address 0: outdoor main unit;
  Address 1: outdoor auxiliary unit;
  Address 2: outdoor auxiliary unit;
  Address 3: outdoor auxiliary unit;
  Address higher than 3: ineffective address, error occurs.

Pattern locking code

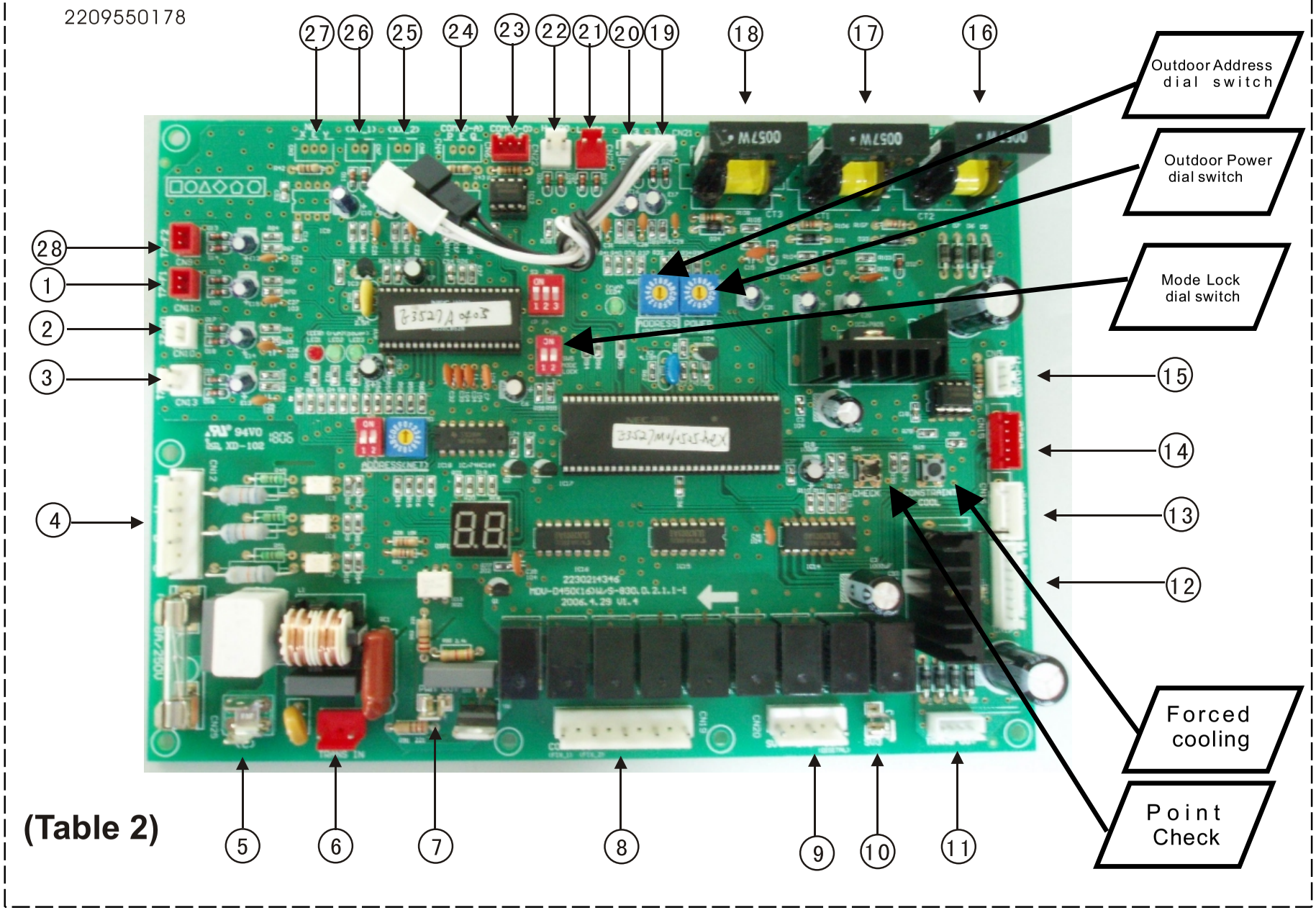
- Sw5 under the following rule:

SW5 Pattern locking			OR
	COOL	HEAT	AUTO

- Distance between ground bolt is shown below: (Note: Outdoor units in the same system should be located in the same level.)

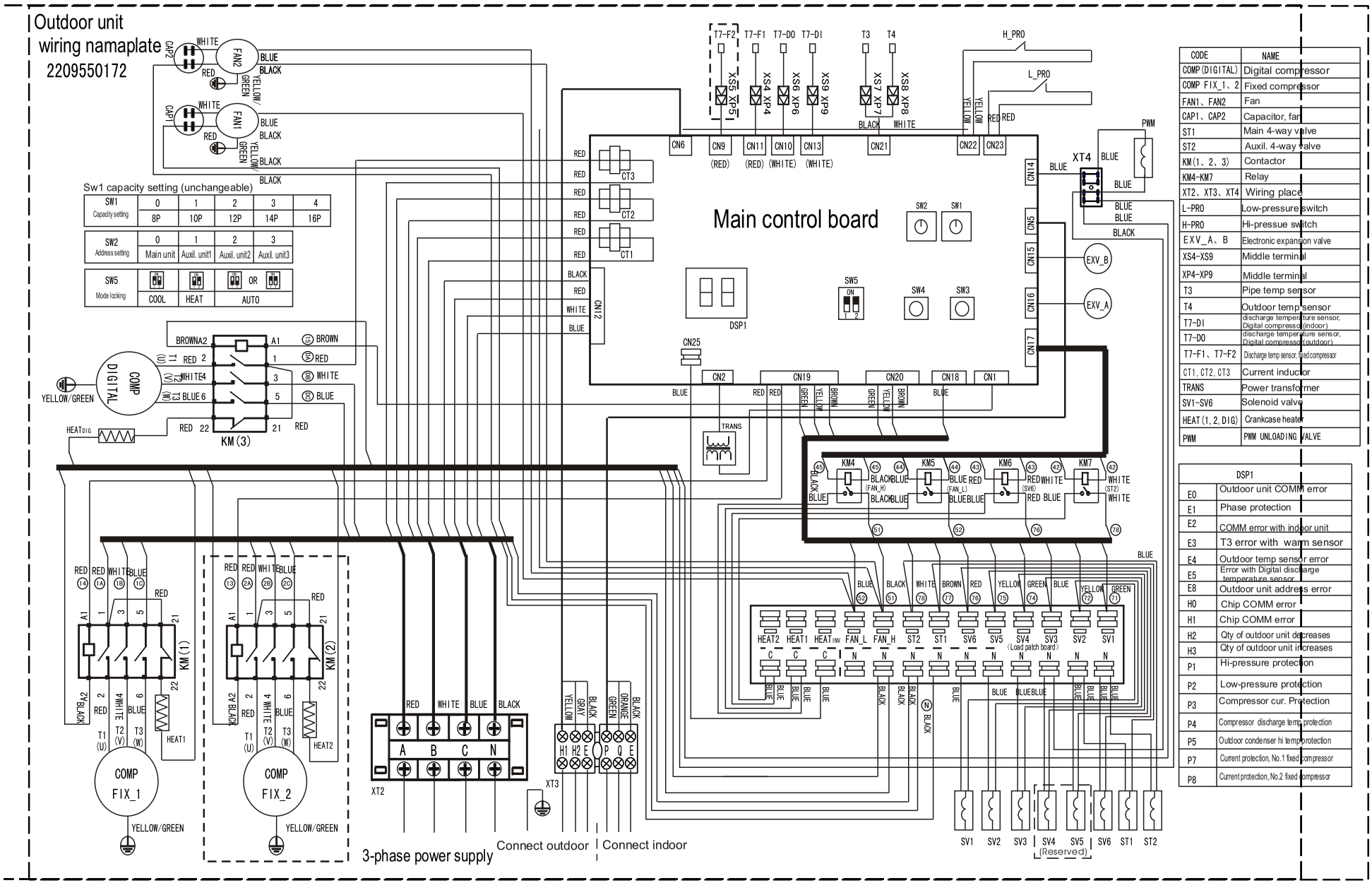


2209550178



(Table 2)

Outdoor unit
wiring namaplate
2209550172

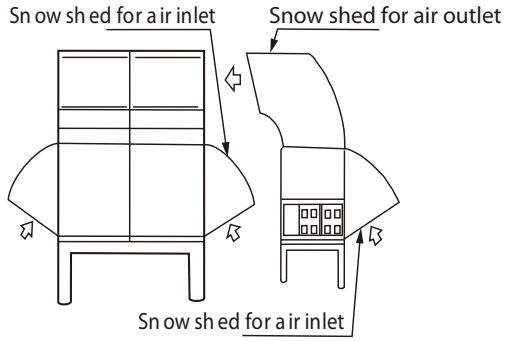


CODE	NAME
COMP(DIGITAL)	Digital compressor
COMP FIX_1、2	Fixed compressor
FAN1、FAN2	Fan
CAP1、CAP2	Capacitor, fan
ST1	Main 4-way valve
ST2	Auxil. 4-way valve
KM(1、2、3)	Contactor
KM4-KM7	Relay
XT2、XT3、XT4	Wiring place
L-PRO	Low-pressure switch
H-PRO	Hi-pressue switch
EXV_A、B	Electronic expanson valve
XS4-XS9	Middle terminal
XP4-XP9	Middle terminal
T3	Pipe temp sensor
T4	Outdoor temp sensor
T7-DI	discharge temperature sensor, Digital compressor(indoor)
T7-DO	discharge temperature sensor, Digital compressor(outdoor)
T7-F1、T7-F2	Discharge temp sensor, fixed compressor
CT1, CT2, CT3	Current inductor
TRANS	Power transformer
SV1-SV6	Solenoid valve
HEAT(1, 2, DIG)	Crankcase heater
PWM	PWM UNLOADING VALVE

DSP1	
E0	Outdoor unit COMM error
E1	Phase protection
E2	COMM error with indoor unit
E3	T3 error with warm sensor
E4	Outdoor temp sensor error
E5	Error with Digital discharge temperature sensor
E8	Outdoor unit address error
H0	Chip COMM error
H1	Chip COMM error
H2	Qty of outdoor unit decreases
H3	Qty of outdoor unit increases
P1	Hi-pressure protection
P2	Low-pressure protection
P3	Compressor cur. Protection
P4	Compressor discharge temp protection
P5	Outdoor condenser hi temp protection
P7	Current protection, No.1 fixed compressor
P8	Current protection, No.2 fixed compressor

OUTDOOR UNIT INSTALLATION

In snowy areas, facilities should be installed to prevent snow. (See the chart below)(defective facilities may cause malfunction.) Please lift the bracket higher and install snow shed at the air inlet and air outlet.



ELECTRIC WIRING

CAUTION

- Please select power supply for indoor unit and outdoor unit separately.
- The power supply should have specified branch circuit with leakage protector and manual switch.
- The power supply, leakage protector and manual of all the indoor units connecting to the same outdoor unit should be universal. (Please set all the indoor unit power supply of one system into the same circuit.)
- Please put the connective wiring system between indoor unit and outdoor unit with refrigerant piping system together.
- It is suggested to use 2-core shielded wire as signal wire between indoor and outdoor units, multi-core wire is unavailable.
- Please comply with relevant National Electric Standard.
- Power wiring should be done by professional electrician.

POWER WIRING

<Outdoor unit>

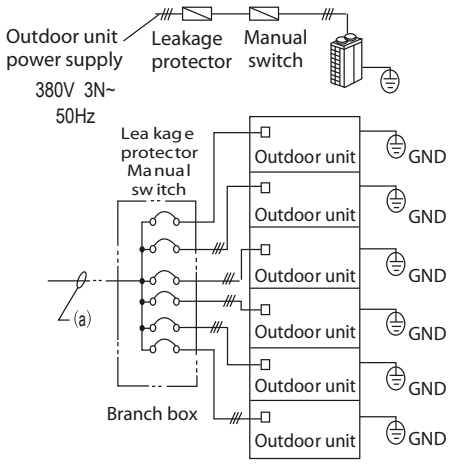
- Separate Power Supply (without power facility) (See table below)

Item / Model	Power supply	Min. Power wire diameter (mm^2) Wiring of mental and synthetic resin			Manual switch (A)		Leakage protector
		Size	Size	Grounding wire	Capacity	Fuse	
YDMH-252C35B YDMH-280C35B YDMH-335C35B	380V 3N~ 50Hz	16(29)	25 (46) 35 (78)	16	60	50	100mA 0.1sec or less
YDMH-400C35B YDMH-450C35B	380V 3N~ 50Hz	16(29)	25 (46) 35 (78)	16	80	70	

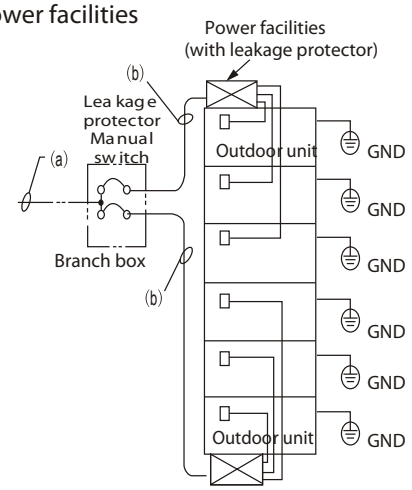
Note: Select power cord for these five models separately according to relevant standard.

YDMH-252C35B YDMH-280C35B
YDMH-335C35B YDMH-400C35B
YDMH-450C35B

Note: The wiring diameter and the length in the table indicate the condition that the voltage dropping range is within 2%. If the length exceeds the above figure, please select the wire diameter according to relevant standard.



- With power facilities



- Select the wire diameter

Power wiring refer to the main wire (a) connecting to branch box and the wiring (b) between branch box and power facilities. Please select the wire diameter according to the following requirement.

(1) Diameter of main wire (a)

Depends on the total horsepower of outdoor unit and following table.

E.g In system:(5Hp×1unit+8Hp×1unit+10Hp×1unit)

Total Hp=23Hp→(Table)→size of wire=70mm^2(within 50m)

(2) Wiring(b) between branch box and power equipment

Depends on the number of combined outdoor unit. If fewer than 5, the diameter is the same as that of main wire (a); if more than6, there will be 2 electric control boxes, and the diameter of wiring depends on the total horse power of outdoor units connecting to each electric control box and following table.

Select wire diameter (≥) (table) (unit :mm)^2

Total Hp	<20m	<50m
8	10	25
10	10	25
12	16	25
14	25	35
16	25	35
18	25	35
20	25	35
22	35	70
24	35	70
26	35	70
28	35	70
30	50	70
32	50	70
34	50	70
36	50	70

Total Hp	<20m	<50m
38	70	95
40	70	95
42	70	95
44	70	95
46	70	95
48	70	95
50	95	120
52	95	120
54	95	120
56	95	120
58	95	120
60	95	120
62	95	120
64	95	120

● Select the capacity of manual switch and fuse of the branch box.

(1) See following table when without power facilities, depends on the outdoor unit it connecting to.

(2) See table below when there is power facility, depends on the total horsepower.

Total horsepower, capacity of manual switch and fuse(table below)

Total Hp	Manual switch (A)	Fuse(A)
10~14	100	75
15~18	100	100
19~28	150	150

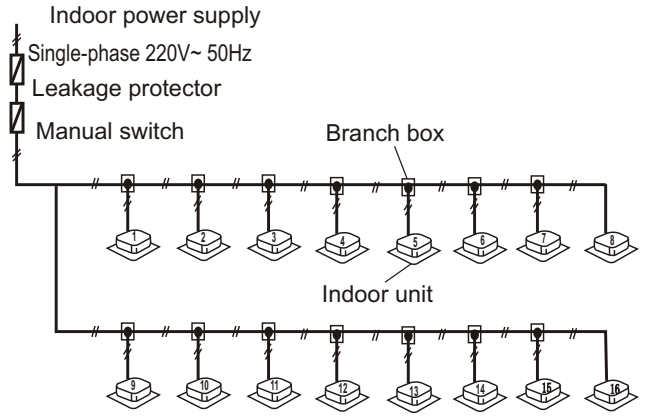
Total Hp	Manual switch (A)	Fuse(A)
29~36	200	200
37~47	300	250
48~50	300	300

<Indoor unit>

● Power cord

Item / Model		Power supply	Min. Power wire diameter (mm²)			Manual switch (A)		Leakage protector
			Size	Size	Grounding wire	Capacity	Fuse	
All models	Non auxil heater	Single-phase 220V~ 50Hz	2.5 (30m)	3.5 (50m)	1.6mm	30	15	20A 30mA 0.1sec or less
	Auxil heater	380V 3N~ 50Hz						

Note: The length in the table equals the value of power cord connecting parallel indoor units, indicating the condition that the voltage dropping range is within 2%. If the length exceeds the above figure, please select the wire diameter according to relevant standard.

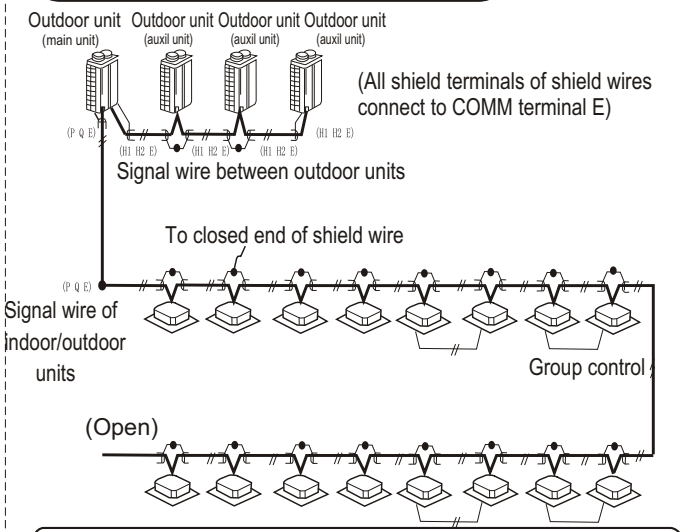


CAUTION

1. Set refrigerant piping system, signal wires between indoor-indoor unit, and that between outdoor-outdoor unit into one system.
2. Please do not put the signal wire and power wire in the same wire tube; keep distance between the two tubes. (Current capacity of power supply: less than 10A--300mm, less than 50A--500mm.)
3. Make sure to set address of outdoor unit in case of parallel multi-outdoor units.

● Signal wire of indoor/outdoor unit adopts 2-core shielded wire (≥0.75mm²)which has polarity, please connect it correctly.

Signal wire of indoor/outdoor units



Test running

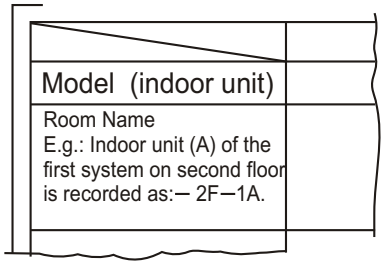
Please follow the "gist for test running" on electric control box cover.

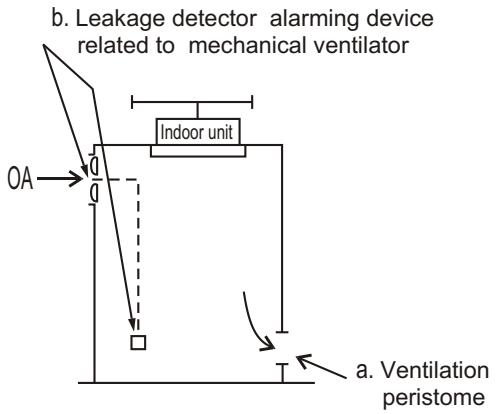
CAUTION

1. Do not start test running until the outdoor unit has been connected to the power for 12hr.
2. Make sure to open all valves before test running.
3. Do not make forced running .(Or the protection device will not work, which is very dangerous.)

FILL THE NAME OF CONNECTED SYSTEM

To clearly identify the connected systems between two or more indoor units and outdoor unit, select names for every system and record them on the nameplate on the outdoor electric control box cover.



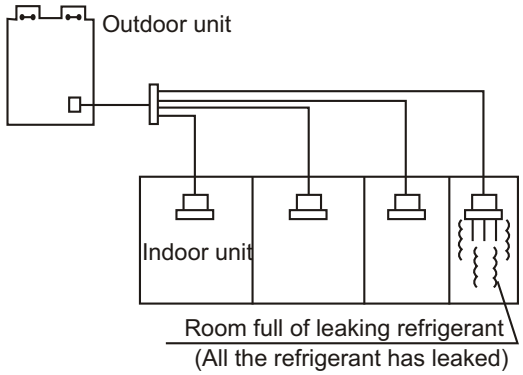


(Leakage detector alarming device should be installed in places easily keeping refrigerant)

CAUTION ON REFRIGERANT LEAKAGE

This air conditioner adopts R22 as refrigerant, which is safe and noncombustible. The room for air conditioner should be big enough that refrigerant leakage can not reach the critical thickness. Besides this, you can take some action on time.

- Critical thickness — the max thickness of Freon without any harm to person. R22 critical thickness:0.3 [kg/m^3]



Calculate the critical thickness through following steps, and take necessary actions.

1. Calculate the sum of the charge volume (A[kg])
   Total refrigerant volume= refrigerant volume when delivered(13[kg])+superaddition
2. Calculate the indoor cubage (B[m^3]) (as the minimum cubage)
3. Calculate the refrigerant thickness

$$\frac{A\,[kg]}{B\,[m^3]} \leqslant \text{Critical thickness: } 0.3\,[kg/m^3]$$

Countermeasure against overhigh thickness

1. Install mechanical ventilator to reduce the refrigerant thickness under critical level. (ventilate regularly)
2. Install leakage detector alarming device related to mechanical ventilator if you can not regularly ventilate.

TURN OVER TO CUSTOMER

- The owner's manuals of indoor unit and outdoor unit and Service manual must be turned over to the customer.
- Particularize the contents in the owner's manual to the customers.

- Dimension and the quantity of electric wire

Name	Type	Size
Signal wire of indoor/ outdoor unit	2-core	0.75mm^2≤ 500m RVVP-0.75mm^2 2

1. Signal wire of indoor/outdoor unit adopts 2-core shielded wire which has polarity. For least interference, the closed ends of shield wire should be connected continuously and the shielding layer should be connected to the end E on outdoor terminal block.
2. 5-core shield wire is used for wire controller (terminals A, B, C, D and E)
3. The controlling between indoor and outdoor units is realized by RS485 communication, and the address is set while installation.

CAUTION

Signal wire of indoor/outdoor unit and wiring of wire controller belong to low voltage circuit, which should not contact power cord with high voltage.

DE - COMMISSIONING DISMANTLING & DISPOSAL

This product contains refrigerant under pressure, rotating parts, and electrical connections which may be a danger and cause injury!

All work must only be carried out by competent persons using suitable protective clothing and safety precautions.

Read the Manual

Risk of electric shock

Unit is remotely controlled and may start without warning

1. Isolate all sources of electrical supply to the unit including any control system supplies switched by the unit. Ensure that all points of electrical and gas isolation are secured in the OFF position. The supply cables and gas pipework may then be disconnected and removed. For points of connection refer to unit installation instructions.
2. Remove all refrigerant from each system of the unit into a suitable container using a refrigerant reclaim or recovery unit. This refrigerant may then be re-used, if appropriate, or returned to the manufacturer for disposal.**Under No circumstances should refrigerant be vented to atmosphere.** Where appropriate, drain the refrigerant oil from each system into a suitable container and dispose of according to local laws and regulations governing disposal of oily wastes.
3. Packaged unit can generally be removed in one piece after disconnection as above. Any fixing down bolts should be removed and then unit lifted from position using the points provided and equipment of adequate lifting capacity. Reference MUST be made to the unit installation instructions for unit weight and correct methods of lifting. Note that any residual or spilt refrigerant oil should be mopped up and disposed of as described above.
4. After removal from position the unit parts may be disposed of according to local laws and regulations.

Johnson Controls